lies in its path. Suppose the cartilage had not developed until after the nerve had grown quite past this point; it would then be easily conceivable that the form of the nerve stem might have been quite different. The sequence of events becomes, then, a matter of prime importance, and he summarizes it for this period as follows: 1. Formation of the myelospongium (the non-nervous framework); 2. development of axis cylinders from the nerve cells; 3. formation of first nerve trunks leaving the center; 4. development of the outlines of the skeleton; 5. gradual growth of the nerve trunks towards the periphery; 6. development of the protoplasmic processes from the cells in the central system.

For brain anatomy the paper is specially important; for many current views regarding the nature and significance of the cranial nerves will find in it their best evidence, as well as their most serious difficulties.

Ueber die Bestandtheile des vorderen Kleinhirnschenkels. W. Becterew. His and Braune's Archiv, 1888, No. 2 bis 4, S. 124.

On the basis of embryological studies Becterew describes, in the superior peduncle of the cerebellum, four bundles of fibers which acquire their medullary sheaths at different periods. A transverse section between the corpora quadrigemina and the cerebellum in the adult shows dorso-laterally on either side of the middle line the conspicuous crescent formed by the fibers of the superior peduncle. Referring to such a section, the author describes these four bundles as occupying the following positions: (1.) The first is earliest developed, and is found in the sharp ventral angle of the crescent. It does not arise from the cerebellum, but is lost in the principal nucleus of the vestibular nerve. Small in extent, it passes as far as the cephalic edge of the pons where the fibers cross the middle line as a commissure. This is the ventral bundle. (2.) The second in order is the dorsal bundle which forms the dorsal portion of the crescent, and arises from the nucleus fastigii and the cortex of the vermis on the corresponding side. (3.) Between these two, on the lateral curve of the crescent, appears the so-called middle bundle, the fibers of which mix partially with those of the bundles just described. In the cerebellum these fibers are in connection with the nuclei globosus and emboliformis. (4.) The last to develop is the one filling the remaining space along the mesial curve of the crescent, the inner bundle. It arises in part from the corpus dentatum and the cortex of the cerebellar hemispheres. The three bundles last named form the superior peduncle proper, and crossing the middle line end in the cells of the red nucleus. Becterew regards these three as a physiological continuation of the bundles which form the inferior peduncle of the cerebellum.

The Development of the Peripheral Nervous System of Vertebrates (Part I, Elasmobranchii and Aves). J. Beard. Quart. Journ. Micr. Sci., Vol. XXIX, 1888, pp. 153–227, plates 16-21.

This elaborate paper is a continuation of the author's morphological studies upon the development of the peripheral nervous system of vertebrates, and is very largely discussional. According to Beard, the spinal ganglia of vertebrates are formed as differentiations of the inner layers of the epiblast just without the limits